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PEER-REVIEW REPORT

Name of journal: *World Journal of Methodology*

Manuscript NO: 89723

Title: Time-dependent impact of a high-fat diet on the intestinal barrier of male mice

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06297467
Position: Peer Reviewer
Academic degree: N/A

Professional title: Professor

Reviewer's Country/Territory: China

Author's Country/Territory: Brazil

Manuscript submission date: 2023-11-10

Reviewer chosen by: Jia-Ru Fan

Reviewer accepted review: 2023-12-15 10:43

Reviewer performed review: 2023-12-15 10:47

Review time: 1 Hour

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [Y] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[ ] Grade A: Excellent [ ] Grade B: Good [Y] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[ ] Grade A: Excellent [ ] Grade B: Good [Y] Grade C: Fair [ ] Grade D: No creativity or innovation

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Scientific significance of the conclusion in this manuscript	[ ] Grade A: Excellent [ ] Grade B: Good [Y] Grade C: Fair [ ] Grade D: No scientific significance
Language quality	[ ] Grade A: Priority publishing [ ] Grade B: Minor language polishing [Y] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [Y] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

To evaluate the chronic effect (10 and 16 weeks) of a high-fat diet (50% energy as fat) on phylogenetic gut microbiota distribution and the structure and protection of the intestinal barrier in C57BL/6 mice.What are the original findings of this manuscript? What are the new hypotheses that this study proposed?

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RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: *World Journal of Methodology*

Manuscript NO: 89723

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Position: Peer Reviewer
Academic degree: N/A
Professional title: Professor
Reviewer's Country/Territory: China
Author's Country/Territory: Brazil

Manuscript submission date: 2023-11-10

Reviewer chosen by: Jing-Jie Wang

Reviewer accepted review: 2024-01-12 11:38

Reviewer performed review: 2024-01-13 11:49

Review time: 1 Day

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [ ] Grade B: Minor language polishing [Y] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

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SPECIFIC COMMENTS TO AUTHORS

There is great interest in the scientific community on the impact of unhealthy eating habits, such as excess saturated fatty acid intake, on the gut microbiota composition and metabolic disease onset. Here, we evaluated the progressive changes in the intestinal structural barrier and gut microbiota composition in mice fed a high-fat diet for 10 or 16 weeks. A high-fat diet yielded gut dysbiosis, compensatory enhancement of goblet cell numerical density, and Mucin2 expression after 10 weeks. Continuous feeding reduced the goblet cell number and the expression of Mucin2 and occludin, consistent with the impaired tight junction ultrastructure in the chronically obese high-fat diet-fed mice after 16 weeks.